

# isc Silicon NPN Power Transistor

# 2N6739

## DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 350V(\text{Min})$
- High Switching Speed
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

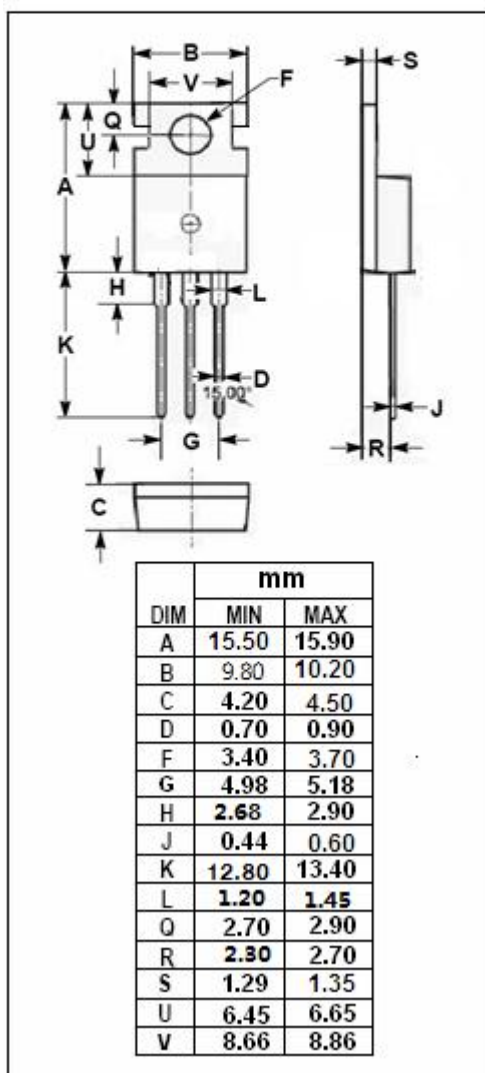
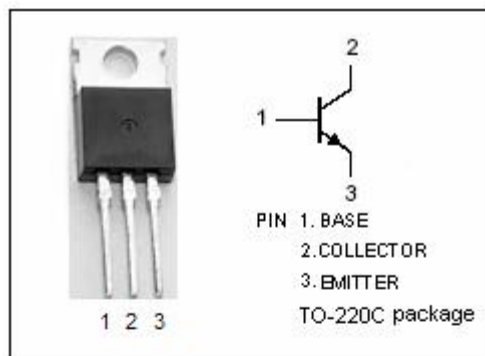
- Designed for use in high-voltage, high-speed , power switching in inductive circuit , they are particularly suited for 115 and 220V switchmode applications such as switching regulators, inverters, DC-DC and converter.

## ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEV}$	Collector-Emitter Voltage- $V_{BE} = -1.5V$	550	V
$V_{CEX}$	Collector-Emitter Voltage- $V_{BE} = -1.5V$	400	V
$V_{CEO}$	Collector-Emitter Voltage	350	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_c$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	4	A
$P_C$	Collector Power Dissipation $T_c=25^{\circ}C$	100	W
$T_j$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Ttemperature Range	-65~150	$^{\circ}C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.25	$^{\circ}C/W$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 50\text{mA}; I_B= 0$	350		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 5\text{A}; I_B= 1\text{A}$		1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 8\text{A}; I_B= 4\text{A}$		2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 5\text{A}; I_B= 1\text{A}$		1.6	V
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 8\text{V}; I_C= 0$		2	mA
$h_{FE}$	DC Current Gain	$I_C= 5\text{A}; V_{CE}= 3\text{V}$	10	40	
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.2\text{A}; V_{CE}= 10\text{V}, f_{test}= 1\text{MHz}$	10		MHz

## Switching Times; Resistive Load

$t_d$	Delay Time	$I_C= 5\text{A}; I_{B1}= -I_{B2}= 1\text{A}, V_{CC}= 125\text{V};$ $t_p= 20\ \mu\text{s}, \text{Duty Cycle} \leq 1\%$		0.1	$\mu\text{s}$
$t_r$	Rise Time			0.4	$\mu\text{s}$
$t_s$	Storage Time			2.5	$\mu\text{s}$
$t_f$	Fall Time			0.5	$\mu\text{s}$

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